

CLAIMS

1. A cable connector for interconnecting coaxial cables having center and outer conductors, comprising:

first and second insulated housings matable with one another and configured to receive coaxial cables, said first and second insulated housings including first and second cavities, respectively;

first and second center contacts configured to securely attach to center conductors of coaxial cables, said first and second center contacts being inserted into said first and second cavities, respectively, at least one of said first and second center contacts having a planar body section; and

first and second outer ground contacts configured to securely attach to outer conductors of coaxial cables, said first and second outer ground contacts each having at least one planar wall secured to a respective first and second insulated housing, said planar walls of said first and second outer ground contacts being positioned on opposite sides and parallel to said planar body section.

2. The cable connector of claim 1, wherein said first and second insulated housings include flat peripheral walls formed in a rectangular shape, said planar walls of said first and second outer ground contacts abutting against a respective one of said flat peripheral walls.

3. The cable connector of claim 1, wherein each of said first and second outer ground contacts includes walls formed together in a rectangular U-shape, said walls being inserted along opposite sides of said first and second insulated housings.

4. The cable connector of claim 1, further comprising at least one coaxial cable displacement contact connected to at least one of said first and second outer ground contacts, said coaxial cable displacement contact having displacement beams configured to pierce and electrically engage an outer conductor of a coaxial cable.

5. The cable connector of claim 1, wherein at least one of said first and second center contacts constitutes a blade contact having said planar body section, said blade contact defining a contact plane located between, and arranged parallel to, said planar walls.

6. The cable connector of claim 1, wherein said first and second center contacts both constitute blade contacts having said planar body sections, said blade contacts mating with one another and arranged in perpendicular contact planes.

7. The cable connector of claim 1, wherein said first and second outer ground contacts and at least one of said first and second center contacts are mounted to said first and second insulated housings layered in parallel planes in a strip line geometry.

8. The cable connector of claim 1, wherein each of said first and second outer ground contacts include a first planar wall arranged parallel to said first center contact and a second planar wall arranged parallel to said second center contact.

9. The cable connector of claim 1, wherein said first and second insulated housings form a dielectric layer spacing said first and second center contacts from said first and second outer ground contacts by a predetermined distance.

10. The cable connector of claim 1, wherein said first and second center and outer ground contacts generate an electric field concentrated proximate, and along an axis extending perpendicular to, said planar walls.

11. A coaxial cable connector comprising:

a connector housing configured to receive a coaxial cable having inner and outer conductors;

a pair of ground contacts, each contact configured to be connectable to an outer conductor of a coaxial cable; and

a center contact configured to be connectable to an inner conductor of a coaxial cable, said connector housing maintaining said center contact and said pair of

ground contacts in parallel planes, said center contact positioned between said pair of ground contacts in a strip line geometry.

12. The coaxial cable connector of claim 11, wherein said connector housing includes a slot for receiving said center contact, said housing including flat exterior surfaces for receiving said ground contacts, said slot and flat exterior surfaces being formed parallel to one another, said connector housing forming a dielectric layer separating said center and ground contacts by a predetermined distance.

13. The coaxial cable connector of claim 11, wherein said pair of ground contacts include U-shaped rectangular shells joining one another to surround said center contact.

14. The coaxial cable connector of claim 11, wherein said pair of ground contacts constitute opposed planar walls located on opposite sides of said center contact.

15. The coaxial cable connector of claim 11, wherein said center contact constitutes a blade contact arranged in one of said parallel planes.

16. The coaxial cable connector of claim 11, wherein said pair of ground contacts comprise opposed planar walls arranged perpendicular to said parallel planes.

17. The coaxial cable connector of claim 11, wherein said pair of ground contacts include first and second ground shell walls positioned in said parallel planes on opposite sides of said center contact, and third and fourth ground shell walls positioned along side edges of said center contact.

18. The coaxial cable connector of claim 11, wherein said center contact and pair of ground contacts generate an electric field having a magnitude focused in regions extending in a direction transverse to said parallel planes.

19. The coaxial cable connector of claim 11, wherein said pair of ground contacts and center contact form a flux density distribution having primary

concentration areas proximate opposite sides of said center contact and secondary concentration areas proximate opposite lateral edges of said center contact.

20. A coaxial cable connector, comprising:

a housing having opposite ends configured to be connectable to a pair of coaxial cables;

a center contact having a planar body, said center contact being configured to be connected to conductors in said pair of coaxial cables; and

ground contacts configured to be connected to ground conductors in said pair of coaxial cables, said ground and center contacts being retained by said housing and being arranged parallel to one another.

21. The coaxial cable connector of claim 20, wherein ground contacts have planar bodies located on opposite sides of said planar body of said center contact, said planar bodies of said ground contacts being arranged parallel to said planar body of said center contact.

22. The coaxial cable connector of claim 20, wherein said pair of coaxial cables form circumferentially symmetric electric field distributions proximate opposite ends of said housing and said center and ground contacts form an asymmetric electric field distribution about said housing, said asymmetric electric field distribution having flux density focused in major areas extending outward from opposite sides of said planar body.

23. The coaxial cable connector of claim 20, wherein said ground and center contacts define a strip-line geometry forming an electric field distribution focused in primary and secondary areas, said primary areas having a greater flux density concentration than in said secondary areas.

24. The coaxial cable connector of claim 20, wherein said ground and center contacts form an asymmetric electric field distribution with regions of low flux density located proximate edges of said center contact.

25. The coaxial cable connector of claim 20, wherein said ground contacts include body sections arranged parallel to said planar body of said center contact and include side walls arranged perpendicular to said planar body of said center contact.

26. The coaxial cable connector of claim 20, wherein said housing includes a rectangular body portion with a recessed slot therein receiving said center contact, said body portion having flat opposed side walls engaging said ground contacts, said body portion forming a dielectric layer between said center and ground contacts.

27. The coaxial cable connector of claim 20, wherein said housing is formed of a dielectric material shaped with flat exterior walls engaging said ground contacts and with an interior cavity receiving said center contact, said exterior walls and interior cavity spacing said center and ground contacts apart by a predetermined distance.

28. The coaxial cable connector of claim 20, wherein said housing includes flat outer walls and an interior slot parallel to said outer walls, said outer walls and slot cooperating to hold said ground and center contacts, respectively, in parallel planes.

29. The coaxial cable connector of claim 20, wherein said center contact including first and second blade contacts mated with one another in a cross arrangement to form a dual strip-line geometry.

30. A ground shield for a coaxial cable connector, comprising:

contact shells matable with one another to define a shielded chamber extending along a longitudinal axis of said contact shells, said contact shells including walls entirely surrounding a perimeter of said shielded chamber when said contact shells join one another, at least one contact shell having an open end and a cable retention end located at opposite ends of said shielded chamber, said cable retention end being configured to receive and to be connected to a coaxial cable, said at least one contact shell having at least one wall extending from said open end to said cable

retention end, said at least one contact shell having at least one open side extending from said open end to said contact retention end, said at least one open side being shielded by one of said walls when said contact shells join one another.

31. The ground shield of claim 30, wherein each of said contact shells include side and connecting walls formed in a U-shape with an open side, said contact shells being joined with said U-shapes facing one another and said side walls overlapping one another.

32. The ground shield of claim 30, wherein said walls provided 360 degrees of shielding around a perimeter of said shielded chamber from said open end to said cable retention end.

33. The ground shield of claim 30, wherein said at least one contact shell includes a coaxial cable displacement member provided at said cable retention end, said coaxial cable displacement member being configured to engage a conductor of a coaxial cable along a plane extending transverse to, and intersecting, said cable retention end of said at least one wall.

34. The ground shield of claim 30, wherein said at least one contact shell includes a wall having an open end and a cable retention end and includes a coaxial cable displacement contact secured to said cable retention end and extending along a plane transverse to said wall.

35. The ground shield of claim 30, wherein said shielded chamber includes opposite ends traversing said longitudinal axis and sides extending parallel to, and along, said longitudinal axis, said walls of said contact shells extending along a complete length of said sides to provide shielded about a complete perimeter and along an entire length of said shielded chamber.

36. The ground shield of claim 30, wherein each of said contact shells includes opposed side walls joined by a connecting wall, each of said contact shells having an open side located proximate said connecting wall and extending along a length of said side walls.

37. The ground shield of claim 30, wherein said contact shells include a first contact shell having at least two side walls and at least one open side extending along a complete length of said shielded chamber, said contact shells including a second contact shell having at least one wall covering said open side of said first contact shell when said first and second contact shells joined one another.

38. The ground shield of claim 30, wherein said at least one contact shell includes a first contact shell having opposed side walls interlinked by a connecting wall surrounding said shielded chamber on three sides, said opposed side walls and said connecting wall surrounding said shielded chamber on three sides, said at least one open side being located opposite said connecting wall and extending along an open edge of said side walls from said cable retention end to said open end.

39. The ground shield of claim 30, wherein said at least one contact shell includes a first contact shell having opposed side walls located on opposite sides of said shielded chamber, said at least one open side of said first contact shell extending along a length of said opposed side walls.

40. The ground shield of claim 30, wherein said at least one open side is configured to be laterally loaded, any direction transverse to said longitudinal axis, with a coaxial cable and a contact connected to a coaxial cable.

41. A coaxial cable connector, comprising:
a housing having a first end configured to be connectable to a coaxial cable;
a center contact configured to be connected to a conductor in a coaxial cable;
and

a ground contact configured to be connected to a ground conductor in a coaxial cable, wherein a coaxial cable forms a circumferentially symmetric electric field distribution proximate said first end of said housing and said center and ground contacts form an asymmetric electric field distribution about said housing, said asymmetric electric field distribution having flux density focused in major areas extending outward from opposite sides of said center contact.

42. The coaxial cable connector of claim 41, wherein said ground and center contacts define a strip-line geometry forming an electric field distribution focused in primary and secondary areas, said primary areas having a greater flux density concentration than in said secondary areas.

43. The coaxial cable connector of claim 41, wherein said ground and center contacts form an asymmetric electric field distribution with regions of low flux density located proximate edges of said center contact.